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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/654,093	09/03/2003	Stanko R. Brankovic	169.12-0570	4897

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EXAMINER

GEORGE, PATRICIA ANN

ART UNIT PAPER NUMBER

1765

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/654,093	Applicant(s) BRANKOVIC ET AL.	
	Examiner Patricia A. George	Art Unit 1765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/05/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

The amendment filed December 5, 2005 was noted and filed. The drawings were received on the same date, and are acceptable.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-15 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Seijo et al. of USPN 6,773,873 evidenced by the definition of complex [Dictionary.LaborLaw.com; word search: complex (chemistry)] and Thin-film multichip module packages for high-end IBM servers [IBM Journal of Research and Development; Sept. 1998].

Seijo et al. teaches an aqueous (ab.), buffered (col.4, l.41) compound useful for etching semiconductor substrates. Seijo writes on complexing agents by teaching the compound has one or more inhibitor/cleaning agents that chelates to specific metal or non-metal components to be removed (col.5, 63-64). Chelating is written on forming complexes with the metal ions present to stabilize the complexes in the solution, evidenced by Dictionary.LaborLaw.com, [word search: complex (chemistry)], see enclosed copy. Seijo teaches several complexing agents: carboxylic acids such as citric acid (col.6, l.2); and alternately tri-carboxylic acids that preferentially have a nitrogen containing functional group (col.6, l.5-6), such as nitrilotriacetic acid (col.6, l.3). Seijo teaches a wide variety of organic acids that can be used for the buffering agent (col.4, l.41) which serves to maintain the pH of the compound. Seijo teaches the buffering agent should maintain the pH as such the potential for oxide etching and/or metal corrosion is limited. See underlined passage on page 3 of enclosure, [Article: Thin-film multichip module packages for high-end IBM servers; IBM Journal of Research and Development; Sept. 1998] for evidence of the inherent level of pH, 8-12, which causes corrosion of nickel.

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Seijo succeeds at disclosing a composition with all of the applicant's claimed components. As a result applicant's composition is anticipated by the reference of Seijo.

It is noted that the reference of Seijo et al. does not teach the use of the disclosed composition for applicants intended use of the selective etching of aluminum oxide in the presence of transition metals. However, the disclosed composition would inherently have the capability of selective etching aluminum oxide in the presence of transition metals because it contains the same components.

The disclosed composition, of Seijo, would obviously accomplish selective etching of aluminum oxide in the presence of transition metals because it contains the same components as defined in applicant's claims.

As to claim 4, Seijo teaches the range of 0-5% weight by volume, which encompasses the claimed range of 0.5% molecular weight.

As to claims 5 and 12, Seijo teaches the buffering agents tetramethylammonium hydroxide, tetraalkylammonium hydroxide (col.4, l.47-49), and defines the term "buffering capacity" as hydroxide ions.

As to claim 7, Seijo teaches any mixtures (col.6, l.15) of the complexing agents, which including citric acid (col.6, l.2) and nitrilotriacetic acid (col.6, l.3), which encompasses the claimed concentration ratio of approximately 1:1.

As to claim 8, Seijo teaches wetting agents Surfynol®, Triton®, Tergitol®, and Tween® (col.6, l.23).

As to claim 9, Seijo teaches a compound which the mere existence of inherently forms a colored complex. See teaching above, for the presence of chelating makes complexing of transition metals or alumina inherent.

Response to Arguments

Applicant's arguments filed on December 5, 2005 have been fully considered but they are not persuasive.

The examiner agrees with the applicants that the reference of Seijo et al. does not teach the use of the disclosed composition for applicants intended use of selective etching of aluminum oxide in the presence of transitional metals. However, the examiner maintains the composition of Seijo et al. would inherently have the capabilities of selective etching aluminum oxide in the presence of transitional metals because it contains the same ingredients.

The examiner strongly disagrees with the applicants that Seijo et al. teach away the claimed composition. As to the implication (on page 5 of remarks) that the composition of Seijo et al. is not aqueous, the examiner interprets the term - - aqueous composition -- as: a composition that includes water. See column 3, line 38 where Seijo et al. teaches the chemistry of the composition includes water. As to the argument (on page 5 of remarks) that Seijo et al.'s technology area is directed toward cleaning, the examiner interprets the term - - cleaning -- as: to rid of, or remove contents, i.e. etching. As to the remark (on page 5) that Seijo et al. dissolves metals and dielectrics simultaneously, therefore not selectively etch aluminum oxide, note examiners

comments in the action dated September 15, 2005, page 4, - - Seijo teaches the buffering agent should be maintain the pH as such the potential for oxide etching and/or metal corrosion are limited - - which illustrates selectivity. As to applicants' (page 6) argument "the formulation of Seijo et al. comprises organic compounds...the wet etchant of the present invention, metals are either immune to corrosion or exhibit passivity such that any etching of a transition metal layer occurs very slowly, if at all", applicants do claim exclusion of organic chemistry, and Seijo et al. teaches buffering to maintain the pH to limit metal corrosion (col. 4, l.41).

The rejections of claims 1-15 stand, see discussion above.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

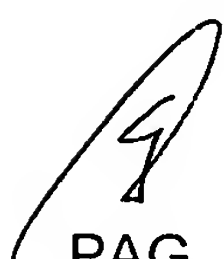
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia (Patty) George whose telephone number is (571)272-5955. The examiner can normally be reached on weekdays between 7:00am and 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on (571)272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


PAG
02/06

Patricia A George
Examiner
Art Unit 1765

ON
EXAMINER

